

Phase Locked Loop Circuit with Self Adjusted Tuning

Hiep The Pham

ABSTRACT

A phase-locked loop (PLL) circuit includes a voltage-controlled oscillator (VCO) having a first input to receive a control voltage, one or more second inputs to receive one or more tuning range control signals, and an output to provide an oscillation output signal, a phase detector having inputs to receive the oscillation output signal and a reference signal, a charge pump having an input coupled to the output of the phase detector and having an output to generate the control voltage, a loop filter having an input to receive the control voltage and having a control terminal, and a controller having inputs to receive the control voltage, a high reference voltage, a low reference voltage, and one or more mode signals, and having a first output connected to the control terminal of the loop filter and second outputs to generate the tuning range signals.